

REMARKS

Upon entry of the present amendment, claims 6 and 8 will be canceled without prejudice or disclaimer of the subject matter recited therein; and claims 1, 7, 9, 10, 13 and 18 will be amended, so that claims 1-5, 7, and 9-26 will remain pending.

By the amendment herein, claims 1 and 13 have been amended to include that the coupling being via at least one of radical reactions, substitution reactions wherein at least one substance is coupled to ester bonds formed via reactions with the -COOH and/or -COF groups, and addition reactions. Support for the amendment appears in Applicants' originally filed application including, for example, page 4, the penultimate paragraph, and the second and third paragraphs on page 5.

Reconsideration of the rejections of record, and allowance of the application in view of the following remarks are respectfully requested.

Claim of Foreign Priority

Applicants express appreciation for the acknowledgement of the claim of foreign priority as well as receipt of the certified copy of the priority application in this national stage application.

Information Disclosure Statement

Applicants also express appreciation for the Examiner's confirmation of consideration of Applicants' Information Disclosure Statement filed January 25, 2008 by including an initialed copy the Form PTO-1449 submitted therewith with the Office Action.

Applicants are submitting on even date herewith a Supplemental Information Disclosure Statement to update the status of cited U.S. applications and to note the mailing of Office Actions in these applications.

Moreover, Applicants have provided English translations of DD 146716 and Lee (Item 11 on the Form PTO-1449) in Application No. 10/577,305, and are submitting copies of these translations with the Supplemental Information Disclosure Statement.

Therefore, the Examiner is requested to initial the Form PTO-1449 submitted with the Supplemental Information Disclosure Statement, and to include an initialed copy with the next communication from the Patent and Trademark Office.

Authorization is hereby provided to charge any fee necessary for consideration of the documents to Deposit Account No. 19-0089.

Moreover, Applicants note that the Examiner has indicated during a telephone interview in Application No. 10/577,305 that the Patent and Trademark Office will prepare an English translation of FR 2494702.

Response To Rejection Under 35 U.S.C. 112, Second Paragraph

Claims 6-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite, the rejection asserting that the claim has insufficient antecedent basis for the language regarding the coupling reaction in claim 6.

In response, Applicants have canceled claim 6 so that this ground of rejection is moot.

Accordingly, the 35 U.S.C. 112, second paragraph, rejection should be withdrawn.

Art Based Rejections

Claims 1-12 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/61527 to Lehmann with U.S. Patent No. 6,770,378 as the English version.

Claims 13-17, 19, 20, 21 and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 99/61527 to Lehmann with U.S. Patent No. 6,770,378 as the English version.

Claims 13-18 and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 20030199639 to Coates.

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 20030199639 to Coates in view Lehmann WO 99/61527.

Applicants submit that the claims are not anticipated by either of Lehmann and are not rendered obvious over either Coates only or Coates in view of Lehmann for at least the reasons set forth below.

Applicants note that independent claims 1 and 13 have been amended herein to include “the coupling being via at least one of radical reactions, substitution reactions wherein at least one substance is coupled to ester bonds formed via reactions with the –COOH and/or –COF groups, and addition reactions’. In contrast, according to Lehmann, compounds of polyamides and perfluoroalkyl substances are disclosed, in which modified perfluoroalkyl substances with polyamide compounds are produced in a melt by reactive transformation, The perfluoroalkyl substances can thereby also be radiation-decomposed perfluorocarbons and in particular also PTFE radiation-decomposed under the influence of oxygen.

The inventors of the present application have established that the groups and radicals present after the radiation-chemical or plasma-chemical degradation of perfluoropolymers can be coupled to low-molecular and/or unsaturated monomers/oligomers/polymers. In view of the

materials present in Lehman, only an amide linkage can be realized via a substitution reaction of the perfluoroplastics with a high-molecular and saturated polyamide. According to the present invention, ester linkages can also be realized via substitution reactions, which is not possible according to Lehman because the carbonylfluoride groups and acid groups in the perfluoroalkyl substance react more quickly and more preferably with the amide linkages of the polyamides and consequently are not available for the slow substitution reaction to ester linkages.

Moreover, according to the present claims, addition reactions can be carried out, which cannot take place between polyamides and perfluoroalkyl substances. Additionally, polyamide substances cannot be radically coupled, since polyamides are saturated compounds which do not have any double bonds and thus are not capable of a radical coupling. Likewise, polyamides are not low-molecular compounds so that a radical coupling is not possible.

Applicants submit that the polymers polyolefins, polyvinyl compounds, polyesters, polycarbonates and polyurethanes disclosed in Lehmann, are added in the mixture with polyamides or during or after compounding, and do not teach or suggest Applicants' recited subject matter. These polymers are added as a mixture of components and not as reactive components and the reaction of the carbonylfluoride groups and acid groups or the radicals in the perfluoroalkyl substance

- (a) cannot run with polyolefins and/or polyvinyl compounds as saturated compounds in a radical reaction and
- (b) with polyesters, polycarbonates and polyurethanes with the carbonylfluoride groups and acid groups run more slowly by orders of magnitude than the substitution reaction with polyamides and consequently do not take place under these conditions, and radical reactions cannot run with these saturated compounds.

Regarding Coates, Coates discloses a method for treating fluoropolymer particles. These fluoropolymer particles are produced in that a mixture of fluoropolymer particles and polymers is produced and subsequently this mixture is irradiated. In particular, the mixture of the fluoropolymer particles with the polymers is carried out before the irradiation, since through the mixing the polymers are distributed on the surface of the fluoropolymers and thus protect the surface for irradiation in the presence of oxygen. Thus no -COOH and/or -COF groups and reactive perfluoroalkyl-(peroxy-) radical centers, or only a technically irrelevant quantity thereof, are formed, which then cannot realize a coupling between the fluoropolymer particles and the polymers. Moreover, according to COATES only saturated polymers are used.

Accordingly, neither of Lehmann or Coates teaches or suggests the claimed subject matter whether taken alone or in combination, and the rejections of record should be withdrawn.

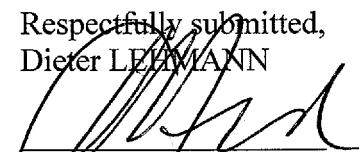
Accordingly, for at least the reasons set forth above, the rejection of records should be withdrawn.

CONCLUSION

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the objections and rejections of record, and allow each of the pending claims.

Applicants therefore respectfully request that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability. Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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August 7, 2009

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